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10/001,667	10/25/2001	Paul Reuben Day	ROC920010160US1	2074

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EXAMINER
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EHICHIOYA, FRED I

ART UNIT	PAPER NUMBER
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2162

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Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/001,667	Applicant(s) DAY ET AL.	
	Examiner Fred I. Ehichioya	Art Unit 2162	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1 - 15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5, 6, 10 - 15 is/are allowed.
- 6) ☒ Claim(s) 1 - 4 and 7 - 9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Response to Arguments***

1. Applicants' arguments, with respect to claims 1 and 7 filed July 26, 2004 have been fully considered but they are not persuasive for the following reasons.

Applicants argue: "This combination fails to meet the limitations of applicants' claim 1. In particular, it fails to teach or suggest the steps of "comparing a second processor resource assignment to first processor resource assignment. . .", and "automatically constructing a second search strategy. . ." (page 15, paragraph 2).

Regarding applicants' argument: Examiner respectfully disagrees with the applicants. However, Examiner wishes to thank the applicants for the agreement that Kleinsorge teaches comparing a second processor resource assignment to first processor resource assignment (See applicants' Remarks: page 15, paragraph 3).

Since the applicants already agreed with the examiner that Kleinsorge teaches comparing a second processor resource assignment to first processor resource assignment as discussed above, automatically comparing a second processor resource assignment to first processor resource assignment is not sufficient to distinguish over the prior art. See *In re Venner*, 262 F.2d 91, 95, 120 USPQ 193, 194 (CCPA 1958)

*(Appellant argued that claims to a permanent mold casting apparatus for molding trunk pistons were allowable over the prior art because the claimed invention combined "old permanent-mold structures together with a timer and solenoid which automatically actuates the known pressure valve system to release the inner core after a predetermined time has elapsed.")*

The court held that broadly providing an automatic or mechanical means to replace a manual activity, which accomplished the same result, is not sufficient to distinguish over the prior art.

2. Examiner respectfully disagrees with all of the allegations as argued.

Examiner in his previous office action pointed out the exact locations in the cited prior art. In view of the above, the examiner contends that all limitations as recited in the claims have been addressed in this Office Action. For the above reasons, Examiner believed that rejection of the last Office action was proper.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 - 4, and 7 - 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over USP 6,247,109 issued to Frederick G. Kleinsorge et al (hereinafter "Kleinsorge") in view of USP 6,115,705 issued to Per-Ake Larson (hereinafter "Larson").

Regarding claims 1 and 7, Kleinsorge teaches a method for database query optimization in a computer system having a plurality of central processors, comprising the steps of:

defining a plurality of logical partitions of said computer system, each logical partition having a respective processor resource assignment, wherein each task executing in said computer system is assigned to a respective one of said logical

partitions and wherein the definition of a plurality of logical partitions may be dynamically altered (see Abstract and column 4, lines 43 – 67);

automatically comparing a second processor resource assignment to said first processor resource assignment, said second processor resource assignment being associated with said first logical partition at the time said invoking said database query for execution step is performed (see column 5, lines 4 – 15);

Kleinsorge does not explicitly teach defining a database query; constructing a first search strategy for said database query, said first search strategy being dependent on a first processor resource assignment at the time said step of constructing a first search strategy is performed; invoking said database query for execution in a first logical partition, said invoking step being performed after said step of constructing a first search strategy; and automatically constructing a second search strategy dependent on said second processor resource assignment, said step of automatically constructing a second search strategy being performed dependent on the results of said comparing step.

Larson teaches defining a database query (see column 1, lines 23 – 33);

constructing a first search strategy for said database query, said first search strategy being dependent on a first processor resource assignment at the time said step of constructing a first search strategy is performed (see column 6, lines 28 – 34 and column 11, lines 1 – 40);

invoking said database query for execution in a first logical partition, said invoking step being performed after said step of constructing a first search strategy (see column 6, lines 28 – 34 and 50 – 65); and

automatically constructing a second search strategy dependent on said second processor resource assignment, said step of automatically constructing a second search strategy being performed dependent on the results of said comparing step (see column 6, lines 35 – 41).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Larson with the teaching of Kleinsorge wherein the query processor establishes a partition table that defines multiple partitions. The motivation is that partitioning is useful for reducing the amount of time required to execute a query.

Regarding claims 2 and 8, Kleinsorge teaches respective processor resource assignment of each partition comprises a respective number of virtual processors of each partition, said respective number being an integer (see Fig.4 and column 2, lines 49 – 67).

Regarding claim 3, Kleinsorge teaches step of defining a plurality of logical partitions comprises defining at least one set of processors which is shared by a set of said logical partitions, said set of said logical partitions containing at least two partitions,

said respective processor resource assignment of each partition of said set of partitions including said set of processors (see Abstract and column 4, lines 43 – 67).

Regarding claims 4 and 9, Larson teaches saving said first search strategy in a persistent object for later execution, said saving step including saving said first processor resource assignment in said object (see column 11, lines 1 – 40).

***Allowable Subject Matter***

4. Claims 5, 6, and 10 - 15 are allowable over the prior art of record.

The following is a statement of reasons for the indication of allowable subject matter:

As to claim 5, the prior art of record does not teach or fairly suggest a method for database query optimization in a computer system having a plurality of central processors, comprising the steps of:

defining a plurality of logical partitions of said computer system, each logical partition having a respective processor resource assignment, wherein each task executing in said computer system is assigned to a respective one of said logical partitions and wherein the definition of a plurality of logical partitions may be dynamically altered;

defining a database query:

constructing a first search strategy for said database query, said first search strategy being dependent on a first processor resource assignment at the time said step of constructing, a first search strategy is performed;

invoking said database query for execution in a first logical partition, said invoking step being performed after said step of constructing a first search strategy;

comparing a second processor resource assignment to said first processor resource assignment, said second processor resource assignment being associated with said first logical partition at the time said invoking said database query for execution step is performed;

automatically constructing a second search strategy dependent on said second processor resource assignment, said step of automatically constructing a second search strategy being performed dependent on the results of said comparing step;

saving said first search strategy in a persistent object for later execution said saving step including saving said first processor resource assignment in said object;

invoking a previously saved search strategy for execution in a second logical partition, said second logical partition being different from said first logical partition;

identifying a third processor resource assignment associated with said second logical partition;

comparing said third processor resource assignment to said first processor resource assignment; and

automatically constructing a third search strategy for execution of said database query depending on the results, of said comparing step.



As to claim 6, the prior art of record does not teach or fairly suggest a method for database query optimization in a computer system having a plurality of central processors, comprising the steps of:

defining a plurality of logical partitions of said computer system, each logical partition having a respective processor resource assignment, wherein each task executing in said computer system is assigned to a respective one of said logical partitions and wherein the definition of a plurality of logical partitions may be dynamically altered;

defining a database query;

constructing a first search strategy for said database query, said first search strategy being dependent on a first processor resource assignment at the time said step of constructing a first search strategy is performed;

invoking said database query for execution in a first logical partition, said invoking, step being performed after said step of constructing a first search strategy;

comparing a second processor resource assignment to said first processor resource assignment said second processor resource assignment being associated with first logical partition at the time said invoking said database query for execution step is performed;

determining whether a user has specified that automatic construction of another search strategy be disabled;

automatically constructing a second search strategy dependent on said second processor resource assignment, said step of automatically constructing a second

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search strategy being performed dependent on the results of said comparing step, wherein said step of automatically constructing a second search strategy dependent on said second processor resource assignment is performed only if said determining step determines that a user has not specified that automatic construction of another search strategy be disabled.

As to claim 10, the prior art of record does not teach or fairly suggest a program product for database query optimization in a computer system having a plurality of central processors and a dynamic logical partitioning mechanism, said dynamic logical partitioning mechanism supporting a plurality of defined logical partitions of said computer system, each logical partition having a respective processor resource assignment, wherein each task executing, in said computer system is assigned to a respective one of said logical partitions and wherein the definition of a plurality of logical partitions may be dynamically altered, said program product comprising \_a plurality of processor executable instructions recorded on signal-bearing media, wherein said instructions, when executed by at least one central processor of said computer system, cause said computer system to perform the steps of:

- receiving a definition of a database query;

- constructing a first search strategy for said database query, said first search strategy being dependent on a first processor resource assignment at the time said step of constructing a first search strategy is performed:

invoking said database query for execution in a first logical partition, said invoking step being performed after said step of constructing a first search strategy;

comparing a second processor resource assignment to said first processor resource assignment, said second processor resource assignment being associated with said first logical partition at the time said invoking said database query for execution step is performed:

automatically constructing a second search strategy dependent on said second processor resource assignment, said step of automatically constructing a second search strategy being performed dependent on the results of said comparing steps;

saving said first search strategy in a persistent object for later execution, said saving step including, saving said first processor resource assignment in said object;

invoking a previously saved search strategy for execution in a second logical partition, said second logical partition being different from said first logical partition;

identifying a third processor resource assignment associated with said second logical partition;

comparing said third processor resource assignment to said first processor resource assignment; and automatically constructing a third search strategy for execution of said database query depending on the results of said comparing step.

As to claim 11, the prior art of record does not teach or fairly suggest a program product for database query optimization in a computer system having a plurality of central processors and a dynamic logical partitioning mechanism, said dynamic to

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logical partitioning mechanism supporting a plurality of defined logical partitions of said computer system, each logical partition having a respective processor resource assignment, wherein each task executing in said computer system is assigned to a respective one of said logical partitions and wherein the definition of a plurality of logical partitions maybe dynamically altered, said program product comprising a plurality of processor executable instructions recorded on signal-bearing media, wherein said instructions, when executed by at least one central processor of said computer system, cause said computer system to perform the steps of:

receiving a definition of a database query;

constructing a first search strategy for said database query, said first search strategy being dependent on a first processor resource assignment at the time said step of constructing a first search strategy is performed;

invoking said database query for execution in a first logical partition, said invoking stems

being performed after said step of constructing a first search strategy;

comparing a second processor resource assignment to said first processor resource assignment, said second processor resource assignment being associated with said first logical partition at the time said invoking said database query for execution step is performed:

determining whether a user has specified that automatic construction of another search strategy be disabled;

automatically constructing a second search strategy dependent on said second processor resource assignment, said step of automatically constructing a second search strategy being performed dependent on the results of said comparing step, wherein said step of automatically constructing a second search strategy dependent on said second processor resource assignment is performed only if said determining step determines that a user has not specified that automatic construction of another search strategy be disabled.

As to claim 12, the prior art of record does not teach or fairly suggest a computer system, comprising:

- a plurality of central processing units;

- a memory;

- a logical partitioning mechanism supporting a plurality of defined logical partitions of said computer system, each logical partition having a respective processor resource assignment, wherein each task executing in said computer system is assigned to a respective one of said logical partitions and wherein the definition of said logical partitions may be dynamically altered;

- a database;

- a database management system for managing said database, wherein said database management system:

(a) performs query optimization of a database query for said database to produce a first search strategy, said first search strategy being dependent on a first processor resource assignment;

(b) responsive to invoking said first query search strategy for execution, compares said first processor resource assignment with a second processor resource assignment associated with a logical partition of execution at the time said first search strategy is invoked for execution; and

(c) depending on the results of said comparison performed in (b), automatically constructs a second search strategy dependent on said second processor resource assignment, wherein said database management system further determines whether a user has specified that (c) be disabled, and disables (c) responsive to determining that a user has so specified, in conjunction with other limitations of the independent claims.

### ***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred I. Ehichioya whose telephone number is 571-272-4034. The examiner can normally be reached on M - F 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene can be reached on 571-272-4107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Fred I. Ehichioya  
Patent Examiner  
Art Unit 2162

November 17, 2004

  
SHAHID ALAM  
PRIMARY EXAMINER